National Aeronautics and Space Administration

NASA

AUGUST 2016

SPACE LAUNCH SYSTEM HIGHLIGHTS

BEHIND THE SCENES OF NASA'S JOURNEY TO MARS

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Bill Hill, second from left, deputy associate administrator for the Exploration Systems Development at NASA Headquarters, talks about the Journey to Mars during a live NASA Social broadcast. During the broadcast, social media participants asked questions and heard from NASA officials about the agency's numerous efforts to enable human exploration on Mars.

'NASA MARS DAY' HIGHLIGHTS PROGRESS ON GETTING TO THE RED PLANET

It was all Mars, all day Aug. 18 at NASA's Michoud Assembly Facility in New Orleans and Stennis Space Center near Bay St. Louis, Mississippi. Dubbed "NASA Mars Day," The event gave hundreds of people, including members of the media and 85 NASA Social participants, a behind-the-scenes look at progress on the agency's Journey to Mars. The event included tours of Michoud, where the SLS core stage and key components of the Orion spacecraft are in production. In late 2018, SLS and Orion will launch together for the first time for an uncrewed flight test, and on future missions, the two will be capable of sending humans farther into space than ever before.

Social media participants also had the opportunity to ask questions and hear from NASA officials about numerous efforts being made now to enable human exploration on Mars. The panel for that discussion included Todd May, director of NASA's Marshall Space Flight Center in Huntsville, Alabama; Bill Hill, deputy associate administrator for the Exploration Systems Development at NASA Headquarters; Rick Davis, assistant director for Science and Exploration, Planetary Science Division at NASA Headquarters; John Vickers, principal technologist for the Space Technology Mission Directorate at Marshall; Katie Boggs, manager for Systems and Technology Demonstration at NASA Headquarters; and NASA astronaut Rick Mastracchio from Johnson Space Center in Houston.

A tour of Stennis and a successful hot fire of the SLS RS-25 development engine on the A-1 test stand closed out the day. See more 'NASA Mars Day' photos on Flickr.

More than 30 booths were set up at Michoud where eventgoers spoke one-on-one with subject matter experts about NASA programs and initiatives. Here, a NASA Social participant, left, visits a booth highlighting technology that is being used to learn more about growing vegetation on Mars.

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The B-2 stand was a tour stop at Stennis and will be used for "green run" -- when the SLS core stage and four RS-25 engines fire up for testing together.

'NASA Mars Day' participants take a tram tour of Michoud and see the liquid hydrogen qualification tank recently welded on the facility's Vertical Assembly Center. Leading the tram tour is SLS Stages Manager Steve Doering and Michoud Director Bobby Watkins.

A group gets a closer look at the world's largest welding tool, the Vertical Assembly Center, during a tour of Michoud. Flight hardware for the SLS liquid hydrogen tank, part of the core stage, is currently being welded in the tool.

The crowd watches as the SLS RS-25 engine, built by Aerojet Rocketdyne, roars to life for a 420-second hot-fire test on the A-1 test stand at Stennis.

SOCIAL SNAPSHOT OF #NASAMarsDay

#NASAMarsDay trended throughout the day on Twitter and was the most popular NASA-related hashtag of the week.

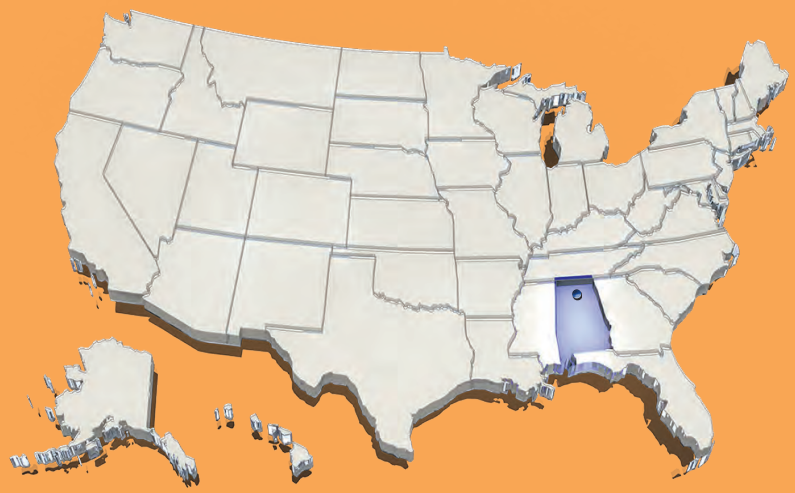
'NASA MARS DAY' IN THE NEWS

NBC News *Spaceflight Insider* *Universe Today*

WELDERS COMPLETE FINAL PLUG FUSION WELDS ON SLS LIQUID HYDROGEN TANK

Welders inside the enormous SLS liquid hydrogen tank at NASA's Michoud Assembly Facility are plugging holes left after tank assembly. Using frictional heating and forging pressure, friction-stir welding produces high-strength bonds virtually free of defects. More here.

SPACEFLIGHT PARTNERS:
CKS Technologies



LOCATION:
Huntsville, Alabama

NUMBER OF EMPLOYEES: *3*

WHAT THEY DO FOR SLS:
CKS Technologies supports SLS by supplying structural analysis for the ground support equipment required for lifting, handling and transportation of the launch vehicle stage adapter.

FACES OF SLS: BILL DAVIS

Testing the RS-25 and other engines at NASA's Stennis Space Center gets this engineer all fired up! Meet "nominal, phenomenal" Aerojet Rocketdyne senior manager Bill Davis here.

INITIAL RESULTS SHOW SUCCESS FOR SECOND NASA SLS BOOSTER TEST

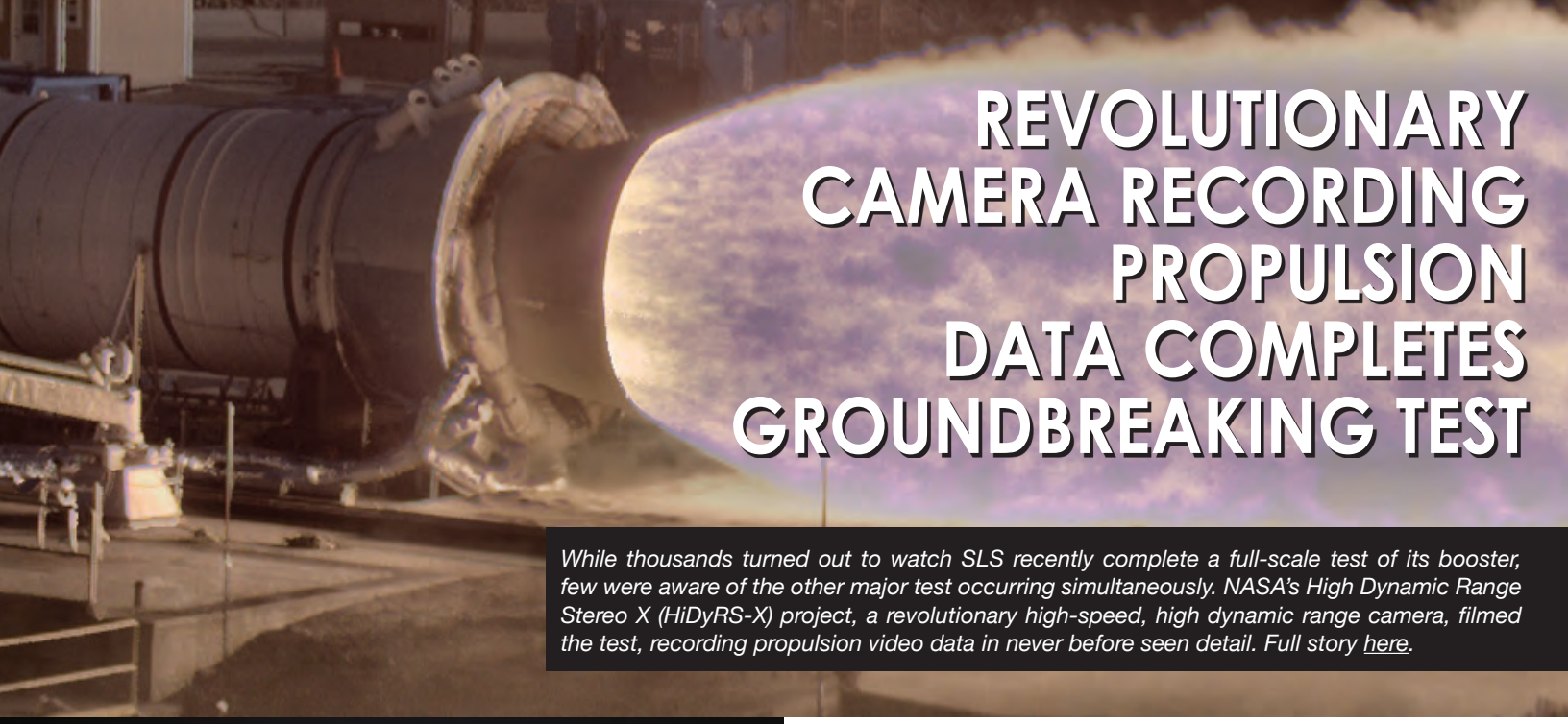
Critical data continues to pour in from the successful June 28 SLS booster ground test at Orbital ATK's test facilities. Here, Orbital ATK engineers begin disassembling the booster aft exit cone from the rest of the motor. Each segment of the booster will be taken apart and undergo a detailed inspection to support verification that the booster design meets SLS requirements. NASA and Orbital ATK also use the inspection to ensure the booster performed as expected during the ground test. "Preliminary analysis from the test shows the instrumentation performed extremely well and gathered the critical data needed to show that we met our test objectives," said Mat Bevill, deputy chief engineer for the SLS Boosters Office at NASA's Marshall Space Flight Center. More here.

BY AIR AND SEA

TOP-RIGHT: *More than 10,000 visitors stopped by to see SLS and NASA at the 2016 Chicago Air & Water Show. The show has been held each year since 1959 and is Chicago's second most popular festival.*

BOTTOM-LEFT: *SLS's Twila Schneider answers questions about SLS from a group of kids and adults at the Chicago Air & Water Show.*

BOTTOM-RIGHT: *Eventgoers got the opportunity to meet NASA astronaut Tim Kopra.*



REVOLUTIONARY CAMERA RECORDING PROPULSION DATA COMPLETES GROUNDBREAKING TEST

While thousands turned out to watch SLS recently complete a full-scale test of its booster, few were aware of the other major test occurring simultaneously. NASA's High Dynamic Range Stereo X (HiDyRS-X) project, a revolutionary high-speed, high dynamic range camera, filmed the test, recording propulsion video data in never before seen detail. Full story here.

SLS GETS UPDATED ADAPTER FOR JOURNEY TO MARS

SLS's Steve Creech addresses questions during Glenn Research Center's industry day on the universal stage adapter for the rocket. More here.

FOLLOW THE PROGRESS OF NASA'S NEW LAUNCH VEHICLE FOR DEEP SPACE:

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COMING IN SEPTEMBER:

EM-1 booster center segment cast

Launch vehicle stage adapter structural test article installed in test stand

Flight liquid hydrogen tank completes welding at Michoud